

Attorney Docket No.: 10134.200-US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Frank et al.

Confirmation No: 9961

Serial No.: 10/092,877

Group Art Unit: 2856

Filed: March 7, 2002

Examiner: Bellamy, T. D.

For: Method of Analyzing Granular Composition By Acoustic Emission

CERTIFICATE OF FACSIMILE TRANSMISSION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

FAX RECEIVED

SEP 02 2003

TECHNOLOGY CENTER 2800

Sir:

I hereby certify that the attached correspondence comprising:

1. Amendment Fee Transmittal (in duplicate)
2. Amendment

was sent to the United States Patent and Trademark Office by telefax to the attention of Examiner
Bellamy, T. D., fax number (703) 308-7382.

Respectfully submitted,

Date: September 2, 2003


Lourdes Ayala

Novozymes North America, Inc.
500 Fifth Avenue, Suite 1600
New York, NY 10110
(212) 840-0097

AMENDMENTS TO THE CLAIMS:

Claims 1, 10, 14 and 15 are amended. The following is the status of the claims of the above-captioned application, as amended.

1. (Currently amended.) A method for acoustic emission analysis of a non-compacted granular composition comprising a biologically active compound, said method comprising colliding the non-compacted granular composition with at least one surface transmitting low frequency vibrations, recording low frequency vibration data in the range of 10 Hz to less than 50 kHz, arising from the collision, with at least one vibration detecting sensor and subjecting the recorded low frequency vibration data to computerized data processing.
2. (Original.) The method according to claim 1, wherein the low frequency vibrations has a frequency between 32 Hz to 25.6 kHz.
3. (Original.) The method according to claim 1, wherein at least one of the low frequency vibrations is a frequency below 15 kHz.
4. (Original.) The method according to claim 1, wherein the vibration detecting sensor is a piezo-electric sensor.
5. (Original.) The method according to claim 1, wherein the vibration detecting sensor is an accelerometer.
6. (Original.) The method according to claim 1, wherein the data processing is selected from the group of Fast Fourier Transformation, Power Spectral Density, Principal Component Analysis, Partial Least Squares Regression, Principal Component Regression, Multiple Linear Regression, Neural Network or a combination thereof.
7. (Previously Amended.) The method according to claim 1, wherein the biologically active compound is in a purified form.
8. (Previously Amended.) The method according to claim 1, wherein the biologically active compound is selected from bio-catalysts, therapeutic agents, herbicides, pesticides and

fungicides.

9. (Original.) The method according to claim 8, wherein the biologically active compound is selected from proteins and peptides.

10. (Currently Amended.) The method according to claim 9, wherein the biologically active compound is an enzyme[, particularly selected from hydrolases and oxidoreductases].

11. (Original.) The method according to claim 1, wherein the granular composition further comprises auxiliary granulation agents.

12. (Original.) The method according to claim 11, wherein the auxiliary granulation agents are selected from fibre materials, binders, fillers, liquid agents, enzyme stabilizers, suspension agents, cross linking agents, mediators and/or solvents

13. (Original.) The method according to claim 1, wherein the granules comprises a core wherein the biologically active compound is intimately mixed with auxiliary granulation agents.

14. (Currently Amended.) The method according to claim 1, wherein the granules comprise a core particle coated with a layer comprising the biologically active compound [and preferably auxiliary granulation agents].

15. (Currently Amended.) The method according to claim 1, wherein the granules have an average size between 20-2000 μm [, preferably between 100-1000 μm , more preferably between 200-800 μm].

16. (Original.) The method according to claim 1, wherein the granules are coated with a coating agent.

17. (Previously Amended.) A process for preparing granules comprising a biologically active compound and optionally auxiliary granulation agents in a granulation apparatus said process comprising the step of performing acoustic emission analysis on the granules in accordance with claim 1 on the granules forming in the granulator.

18. (Original.) The process of claim 17, wherein the acoustic emission analysis is performed on-line and in real time during the granulation process and is repeated more than one time during the granulation process.

19. (Original.) The process of claim 17, further comprising the step of changing at least one process parameter as a result of the acoustic emission analysis.

20-21 (Previously cancelled.)

22. (Original.) A granulation or coating apparatus comprising

- (a) a granulation or coating device comprising at least one chamber for processing material into granules or coated granules,
- (b) an arrangement for performing acoustic emission analysis comprising at least one vibration detecting sensor capable of detecting vibrations in the range of 10 Hz to less than 50 kHz and optionally amplifying and filtering units and a computer unit.